REMARKS

The application has been reviewed in light of the Office Action dated May 3, 2007. Claims 1, 2, 4-6 and 9-12 were pending, with claims 3, 7, and 8 having previously been canceled, without prejudice or disclaimer. By this Amendment, new claim 13 has been added. Accordingly, claims 1, 2, 4-6 and 9-13 are now pending, with claim 1 being in independent form.

Claims 1, 2, 4-6 and 9-11 were rejected under 35 U.S.C. 103(a) as purportedly unpatentable over Onaki et al. (JP 2002-260283) in view of Ebina et al. (JP 10-055539) and Nobukuni et al. (US2004/0190407 A1) or Harigaya et al. (EP 1260973). Claims 1, 2, 4-6, and 9-12 were rejected under 35 U.S.C. 103 (a) as purportedly unpatentable over Onaki in view of Ebina, Nobukuni or Harigaya and further in view of Maeda (US 5,870,375).

Applicant has carefully considered the Examiner's comments and the cited art, and respectfully submits that independent claim 1 is patentable over the cited art, for at least the following reasons.

This application relates to a method for initializing a phase change optical recording medium with a laser beam with a power density of from 15 to 22 $mW/\mu m^2$ at a linear velocity of from 8 to 12 m/s. The phase change optical recording medium comprises a transparent substrate, first and second protective layers on opposite sides of a recording layer, and an oxide layer located between the recording layer and at least one of the protective layers, wherein the oxide layer comprises ZrO_2 and at least one of a rare earth oxide and an oxide of a group IIa element exclusive of Be, in a content of 1 to 10 mole % based on ZrO_2. Independent claim 1 addresses these features, as well as additional features.

The cited references, as understood by applicant, do not disclose or suggest any single

recording medium having the complete combination of oxide layer composition and structural arrangement, as provided by the subject matter of claim 1 of the present application.

Example 2 of Onaki, as characterized in the Office Action, includes, in order, a lower protective layer of ZnS-Nb_2O_5, and lower and upper dielectric layers of $(ZrO_2)_{80}(Nb_2O_5)_{20}$ on opposite sides of a recording layer. Even assuming for the sake of argument (which applicant does not concede) that the lower dielectric layer is an oxide layer and that the (compositionally identical) upper dielectric layer meets the "second protective layer" recital of present claim 1, the composition of the dielectric layers in the medium of Example 2 of Onaki does not include any rare earth oxide or oxide of a group IIa element exclusive of Be.

The Office Action also cites other Examples of Onaki et al. having an upper dielectric layer of $(ZrO_2)_{90}(MgO)_{10}$ [mole%],$(ZrO_2)_{90}(CaO)_{10}$ [mole%] and $(ZrO_2)_{77}(Y_2O_3)_3(TiO_2)_{20}$[mole%]. Mg and Ca are group IIa elements and Y is a rare earth element within the meaning of that term in the present application. However, in such other Examples of Onaki, the upper dielectric layer is not between a protective layer and the recording layer, and there is no ZrO_2-containing layer on the other (lower) side of the recording layer but only a ZnS·SiO_2 protective layer. Hence, in these Examples, the structural arrangement of layers of present claim 1 is not found.

It is contended in the Office Action that it would have been obvious from paragraphs [0019], [0068], [0078] and [0090] of Onaki to substitute CaO, MgO, or Y_2O_3 with TiO_2 for the Nb_2O_5 of Example 2. However, there is no indication of why the relative ratios of components would have been maintained in such substitution.

In addition, the upper ZrO_2-containing layer of Onaki et al. is not a "protective layer" as provided by the subject matter of claim 1 of the present application, but is merely an upper oxide layer with no upper protective layer above it.

The other cited references, like Onaki, do not disclose or suggest any single recording medium having the complete combination of oxide layer composition and structural arrangement, as provided by the subject matter of claim 1 of the present application.

Harigaya, as understood by applicant, proposes an upper protection layer composition of ZrO_2 and Y_2O_3, and also mentions MgO and TiO_x.

However, Harigaya, contrary to the contention in the Office Action, does not disclose or suggest "77% ZrO_2-3%Y_2O_3-20%TiO_2" (see Harigaya et al. at paragraph [0147] and Table 1). At least in the Examples, the proportion of Y_2O_3 relative to ZrO_2 , as proposed in Harigaya, is not within the 1-10 mole % range as provided by the subject matter of claim 1 of the present application.

The other two references (Nobukuni and Maeda) are not seen to mention ZrO_2.

In addition, Onaki, Harigaya, and Nobukuni do not teach or suggest the combination of initialization conditions recited in present claim 1.

Onaki is not seen to specify initialization conditions; see, e.g., paragraphs [0073], [0080], [0084], [0088], [0091], etc.

Nobukuni assertedly employs a power density of about 9.8 $mW/\mu m^2$ at a linear velocity of 3 to 4 m/sec.

Harigaya initializes at a linear velocity of 3 m/sec.

It is contended in the Office Action that it would have been obvious to use the

initialization conditions of Ebina (JP 10-055529), i.e., a power density of 17.5 mW/μm^2 at a linear velocity of 8.0 m/sec, with the medium of Onaki (modified in the manner proposed in the Office Action).

However, in Ebina, there is no layer on either side of the recording layer that contains ZrO_2, and the specific recording layer composition given ($Sb_2Te_5Ge_2$) appears to be outside the ranges of proportions of present claim 1, and of the alloys specified in Onaki.

In addition, Maeda, contrary to the contention in the Office Action, does not teach or suggest that the specific initialization conditions recited in dependent claim 12.

In short, Applicant does not find teaching or suggestion in the cited art, however, of a method for initializing a phase change optical recording medium with a laser beam with a power density of from 15 to 22 mW/μm^2 at a linear velocity of from 8 to 12 m/s, wherein the phase change optical recording medium comprises a transparent substrate, first and second protective layers on opposite sides of a recording layer, and an oxide layer located between the recording layer and at least one of the protective layers, wherein the oxide layer comprises ZrO_2 and at least one of a rare earth oxide and an oxide of a group IIa element exclusive of Be, in a content of 1 to 10 mole % based on ZrO_2, as provided by the subject matter of claim 1 of the present application.

Accordingly, for at least the above-stated reasons, Applicant respectfully submits that independent claim 1 and the claims depending therefrom are patentable over the cited art.

In addition, it is submitted that none of the cited references discloses or suggest a method for initializing a phase change optical recording medium with a laser beam with a power density of from 15 to 22 mW/μm^2 at a linear velocity of from 8 to 12 m/s, wherein the phase change

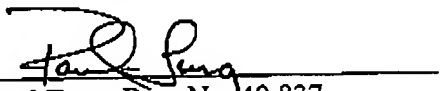
optical recording medium comprises a transparent substrate, first and second protective layers on opposite sides of a recording layer, and an oxide layer located between the recording layer and at least one of the protective layers, wherein the oxide layer comprises ZrO_2 and at least one of a rare earth oxide and an oxide of a group IIa element exclusive of Be, in a content of 1 to 10 mole % based on ZrO_2, and wherein the oxide layer has a thickness within a range of 2 to 6 nm, as provided by the subject matter of claim 13 of the present application. When the thickness of the oxide layer is in such range, the preservability is ameliorated.

In view of the remarks hereinabove, Applicant submits that the application is now in condition for allowance. Accordingly, Applicant earnestly solicits the allowance of the application.

If a petition for an extension of time is required to make this response timely, this paper should be considered to be such a petition. The Patent Office is hereby authorized to charge any fees that are required in connection with this amendment and to credit any overpayment to our Deposit Account No. 03-3125.

If a telephone interview could advance the prosecution of this application, the Examiner is respectfully requested to call the undersigned attorney.

Respectfully submitted,



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